

Response to Comments on
Proposed DRBC Criteria for Aquatic Life and Human Health
Comments Received November 2009

I. Comments from Industry (submitted by Larry Sandeem, DOW)

1) As the industrial representative to TAC, I have several concerns about the proposals that are shared by other industry representatives I contacted. As you know from the comments recently submitted by the Delaware Estuary TMDL Coalition in response to the proposed revision to the PCB water quality standards, many of DRBC's human health criteria derivation assumptions, which are now proposed for generic use, were questioned. Some of the concerns identified relate to:

1a) the selection of a risk level of 10^{-6} . The issue of the appropriate risk level was specifically identified in DRBC's August PCB proposal as a subject about which comments were requested. Until DRBC responds to the comments, additional revisions to the water quality criteria should not be advanced.

DRBC response: This risk level is used by the DRBC and basin states NJ, DE, and PA.

1b) the assumed body weight of 70 kg (EPA's new guidance recommends 80 kg)

DRBC response: The derivations of the proposed human health criteria follow EPA guidance and follow methodologies used by basin states. The DRBC solicits addition EPA guidance if available.

1c) the derivation of the fish consumption rate of 17.5 g/day ;

DRBC response: The fish consumption rate used is consistent with national default value and site-specific data for the population on average.

1d) the failure to consider contaminant loss during cooking ;

DRBC response: Considering contaminant loss is not consistent with national recommendations and has not been adopted by basin states.

1e) the compounding effect of multiple layers of conservatism.

DRBC response: The criteria are neither using the most conservative nor the most liberal values. All proposed criteria are consistent with national recommendations and/or have been adopted by at least one basin state.

2) it would appear to circumvent the process for TAC to again recommend adoption of a new PCB standard (referenced in the table as a proposal from 2009) without full consideration by DRBC of the comments submitted in response to the August proposal.

DRBC response: PCB criteria are not currently part of the proposed criteria revisions under consideration by the TAC.

3) It would be prudent to consider the conclusions reached by TAC, as set forth in these proposals, in light of the September, 2009 publication of EPA's Methodology for Deriving Ambient Water Quality Criteria of the Protection of Human Health (2000) Technical Support Document Volume 3: Development of Site specific Bioaccumulation Factors (EPA-822-R-09-008), which includes recommendations and approaches that may be relevant to TAC's deliberations.

DRBC response: Site specific bioaccumulation factors were not used in the derivation of the proposed criteria.

4) Has there been any assessment of whether any of the proposed criteria can be achieved, a special concern with respect to legacy pollutants such as mercury.

DRBC response: Water quality criteria are based solely on data and scientific judgments about the relationship between pollutant concentrations and environmental and human health effects; economic or social impacts do not influence criteria recommendations.

II. Comments from the State of Delaware (submitted by Dr. Rick Greene, DNREC)

1) Regarding the aquatic life criteria for metals. Is language being proposed that says something like:

*For assessment purposes, freshwater aquatic life criteria will be applied when the salinity at the time of sampling is less than 5 and the marine aquatic life criteria will be applied when the salinity at the time of sampling is greater than 5. For hardness dependent freshwater criteria, the hardness at the time of sampling will be used to calculate the criteria value against which the measured concentration of the metal will be compared.

*

For purposes of developing water quality based effluent limits for metals, the median hardness values listed in section xx.xxx shall be used (I believe DRBC already has language like this).

Of course, the above issue has more to do with how the criteria are applied than the criteria themselves. Nevertheless, I think language along this line is important for scientific and policy reasons.

DRBC response: The answer to the first part of the question is that no implementation language is being proposed for current aquatic life and human health criteria that are being updated. The implementation policies for these criteria are already contained in Article 4 of the DRBC regulations (Application of Standards). The DRBC will be drafting implementation language for ammonia criteria prior to public notice of the criteria revisions since DRBC currently has no implementation procedures for these criteria.

The second part of the question relates to the inclusion of language in our water quality regulations regarding assessment of whether any criteria are being exceeded and a waterbody reach being impaired thus requiring a TMDL. The DRBC staff recommends that assessment methodology be presented separately as part of the Integrated Assessment Process. The DRBC recently publicly noticed, received comment and finalized assessment methodology for 2010. This approach provides more flexibility. The applicable language from the final assessment methodology is as follows which partially incorporates the comment for assessing metals criteria.

From DRBC Integrated Assessment Methodology

"Some criteria require hardness values to compute the actual criteria numeric value. In these cases, multiple sources of hardness information may be used. Where multiple sources of hardness data are available, the assessment will consider the weight of evidence for multiple derivations of the criteria. Sources of hardness data could include:

- Site-specific paired hardness measured concurrently with toxic analytical parameter;
- Median site-specific hardness measured at other times;
- Hardness values listed in DRBC Water Quality Regulations.

DRBC regulations include aquatic life toxics criteria for fresh and marine waters. Upstream of the Delaware Memorial Bridge (RM 68.7), DRBC's freshwater criteria will be used. Between the Delaware Memorial Bridge and Liston Pt. (RM 48.06), the more stringent of the freshwater or marine criteria will be used. Downstream from Liston Pt., the marine criteria will be used."

DRBC staff agrees that current DRBC regulations should be applied in establishing WLAs and associated WQBELs.

III. Comments from the State of New Jersey (submitted by Jack Pflaumer, NJDEP)

1) NJDEP recommends waiting for the ammonia criteria in Zone 1 where mussels exist until EPA publishes their new recommendation. As for the other zones we should go ahead with the process.

DRBC response : The Draft 2009 Update of Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater is under review by DRBC staff and will be incorporated in the criteria revision process.

IV. Comments from the Commonwealth of Pennsylvania (submitted by Jim Newbold, PADEP)

1. Ammonia - It is reported that EPA will be revising the freshwater criteria for ammonia in 2010. Why adopt standards now that might be dated in the near future?

DRBC response : The Draft 2009 Update of Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater is under review by DRBC staff and will be incorporated in the criteria revision process.

2. Lead - The criteria should be consistent with national recommendations and based on hardness. It is not clear why it is proposed to deviate from this.

DRBC response : An explanation for lead is in " Revised Aquatic Life Criteria for Lead" at <http://www.state.nj.us/drbc/regs/lead.pdf>

3. Cr+3, dissolved - The translator used for the Delaware (0.27) is significantly lower than the national translator (0.86) and should be explained.

DRBC response: Explanation of chromium translator is in "Revised Procedure for Converting Total Recoverable Water Quality Criteria for Metals to Dissolved Criteria" at <http://www.state.nj.us/drbc/regs/critmetals.pdf>

4. PCB - PA is not ready to support a criteria of 16 pg/l deviating from the national 64 pg/l.

DRBC response: PCB criteria are not currently part of the proposed criteria revisions under consideration by the TAC.

5. An extension of the criteria developed for Zones 2-5 to Zone 1 should be based on in-stream data obtained in Zone 1.

DRBC response: DRBC requests clarification of the comment.

- **Does the comment refer to DRBC proposed aquatic life criteria (e.g., in-stream hardness and pH values) and/or human health criteria (e.g, fish consumption rate and BAF)?**
- **Does the comment refer to developing site specific aquatic life criteria?**

V. Comments from the Fish and Wildlife Service (submitted by Tim Kubiak, FWS)

1. Ammonia ALC are currently being revisited by EPA nationally. Mussels are much more sensitive than fish. Therefore, the existing most restrictive criterion for Freshwater is PA and for Marine is New Jersey. These should be retained to protect shellfish and adopted by the DRBC. Note EPA will be addressing this issue in a Federal Register Notice in late 2009 according to the attached abstract from this year's SETAC Meeting. DRBC can revisit the ammonia revision after EPA issues new guidance and/or completes an Endangered Species Act Section 7 consultation with the Fish and Wildlife Service and/or the National Marine Fisheries Service. Regardless, DRBC should take advantage of EPAs draft criterion information on mussels when it is published in the development of a new criterion since mussels are an important aquatic life existing use within the Delaware River basin that need to be fully protected.

DRBC response : The Draft 2009 Update of Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater is under review by DRBC staff and will be incorporated in the criteria revision process.

2. The other two aquatic life criteria proposals have not addressed protective wildlife numbers directly for mercury, total PCBs, and total DDTx. Regardless of other merits of these revisions, I cannot support these "aquatic life" revisions without due consideration of wildlife, which will control all three criteria.

DRBC response:

PCB criteria are not currently part of the proposed criteria revisions under consideration by the TAC.

For mercury and DDTx, the DRBC requests clarification of the comment.

Toxicity to aquatic dependent wildlife was incorporated in Great Lakes numeric limits and adopted by PA for Great Lakes drainage areas. Wildlife criteria were proposed by but not adopted by NJDEP. DRBC water quality regulations authorize the establishment of stream quality objectives for wildlife. The DRBC solicits additional input from the TAC on development of stream quality objectives for wildlife.

The DRBC requests clarification if threatened and endangered species are specifically included in this comment. No federal guidance currently exists for conducting analysis of AWQC for protection of threatened and endangered species.